REMARKS

Reconsideration of this application is respectfully requested in view of the foregoing amendments and the following remarks.

By the foregoing amendment, claims 7-9 have been canceled, claims 1, 2 and 4-6 have been amended and claims 10-18 have been added. Thus, claims 1-6 and 10-18 are currently pending in the application and subject to examination.

Response to, and Request for Reconsideration of, Requirement for Restriction

The Applicants filed an Amendment after Final Rejection under 37 C.F.R. § 1.116 in response to the Final Office Action mailed May 27, 2005. In the Amendment after Final Rejection, the Applicants amended claims 1, 7 and 9. The Examiner reviewed the amended claims and issued an Advisory Action, stating that the amendments submitted in the Amendment after Final Rejection would not be entered because they raise new issues that would require further consideration and/or search, and recommended the filing of a RCE. See the Advisory Action of August 24, 2005, at page 1.

The Applicants followed the Examiner's recommendation and filed a RCE on September 13, 2005, requesting entry of the un-entered amendments. In response to the RCE, the Examiner issued the outstanding Office Action, which states that the claims are subject to restriction for being directed to a different invention than the originally claimed invention.

Claims 1-9 are presented herein as new claims 10-18. The Applicants hereby provisionally elect claims 10-18 for prosecution in the application. This election is made **with traverse**.

Reasons for Traversal

As noted above, the claims currently subject to restriction were reviewed by the Examiner upon being presented in the August 12, 2005, Amendment after Final Rejection. After reviewing the claims, the Examiner issued an Advisory Action recommending that the Applicants file a RCE in order to have the claims examined. The outstanding Office Action, requiring restriction of claims 1-9, was issued in response to the RCE that was filed upon the recommendation of the Examiner in the Advisory Action of August 24, 2005.

The Examiner's reasons for requiring restriction, as set forth in the outstanding Office Action, are that, in the claims now pending, "recovery is controlled through monitoring of the power supply" and that, the previously presented claims, "required no such recovery control predicated upon the monitored [power]..." *Office Action of January 27, 2006, at page 2.*

The Applicants traverse the restriction at least because:

1) the restriction requirement was issued for the convenience of the Office, after the Applicants took the action explicitly recommended by the Examiner in the Advisory Action of August 24, 2005, and

2) because original claim 2 recites:

> The information read and write apparatus according to claim 1, wherein said detector means detects an interruption due to a power failure at least at any one of said read device or said write device.

Clearly, for the detector means of original claim 2 to detect an interruption due to a power failure, a power supply must be monitored. Therefore, at least in claim 2 of

the originally claimed in invention, recovery control was predicated by a failure of such power supply. Hence, the power supply means was inherently present at least in claim 2 of the originally claimed invention. Accordingly, the Applicants submit that the scope of the claims now pending is well within the scope of the originally claimed invention. As such, examination of these claims would not require unduly extensive search and/or burden on the Examiner.

For at least these reasons, reconsideration and withdrawal of the Requirement for Restriction are requested.

Response to the Final Office Action

In the Final Office Action mailed ay 27, 2005, claims 1-8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over EP 0997900, or, or in the alternative under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,553,532 to Aoki (hereinafter, "Aoki"). Claim 9 was rejected under 35 USC § 103(a) as being unpatentable over Aoki in view of U.S. Patent No. 5,193,176 to Brandin (hereinafter, "Brandin"). It is noted that claims 7-9 have been canceled, and claims 1, 2, 5 and 6 have been amended. To the extent the rejections remain applicable to the claims currently pending, the Applicants hereby traverse the rejections, as follows.

Independent claim 1, as amended, recites, in part:

> detector means for detecting an interruption of at least any one of a read operation of said read means and a write operation of said write means in the course of writing said program information by said write means, said interruption being caused due to an electric power failure;
>
> determination means which operates when said detector means has detected the interruption, to supply an electric power from the auxiliary power source, to determine a write status of program information on said second

> information storage medium at the time of said interruption, and to store the write status sent from the detector means in a nonvolatile memory;
>
> control means for controlling said read means and said write means, upon restarting writing said program information by said write device and in response to the write status read from the nonvolatile memory, to continue a write operation on said second information storage medium from the program information to be read subsequent to the program information at the time of said interruption or to perform a rewrite operation on said second information storage medium from said program information at the time of said interruption.

The Applicants submit that neither Aoki neither discloses nor suggests at least these features of the claimed invention.

In the claimed invention, the detector means detects an interruption of a read operation by a read device and/or a write operation by a write device in the course of writing program information by the write device. The determination means determines a write status of program information on an information storage medium at the time of the interruption. The control means controls the read device and the write device upon restarting writing the program information by the write device and in response to the write status determined by the determination means, to continue a write operation on the information storage medium from the program information to be read subsequent to the program information at the time of the interruption, or to perform a rewrite operation on the information storage medium from the program information at the time of the interruption.

By virtue of the present invention having the above-mentioned features, it is possible to provide an improved information read/write apparatus, an improved information read/write method, and an improved program storage medium storing a read

and write procedure program which allows a computer to perform the read/write processing that requires only a simple operation to continue high-quality reading and writing of the program information subsequent to the most recently written program information at an interruption caused by a power failure or the like.

Specifically, the present invention makes it possible to continue a read/write operation of the program information subsequent to an interruption without requiring cumbersome manual operations. This in turn serves to improve operability and provide high-quality read and write operations, thereby ensuring continuity between the program information stored prior to the interruption and the program information stored subsequent to the interruption. In the claimed invention, a write status is determined (judged) at the time of an interruption (such as from a power supply, as recited in claim 2), such that when the interruption is eliminated and recording of program information is to be continued, it is possible to continue the information recording so as to ensure continuity between the program information stored prior to the interruption and the program information to be stored subsequent to the interruption, without requiring manual operations. In this way, since a write status is determined (judged) at the time of interruption, it is possible to quickly restart recording or reproducing in accordance with the write status at the time of the interruption.

In contrast, Aoki discloses judging whether data has been normally recorded in a specific ECC block after a power supply is turned on subsequent to a power interruption. Thus, in Aoki, since a confirmation for confirming whether data has been normally recorded in an ECC block is performed only after a power supply is turned on, neither recording nor reproducing the program information can be performed until the

confirmation is finished. Therefore, it is impossible to quickly continue recording or reproducing the program information even if the power supply interruption has been eliminated. Accordingly, Aoki cannot provide the benefits attainable by the claimed invention.

For at least these reasons, the Applicants submit that Aoki neither discloses nor suggests each and every feature of the claimed invention. Specifically, the Applicants submit that Aoki neither discloses or suggests at least the combination of a detector means for detecting an interruption of at least any one of a read operation of said read means and a write operation of said write means in the course of writing said program information by said write means, determination means which operates when said detector means has detected the interruption, to supply an electric power from the auxiliary power source, to determine a write status of program information on said second information storage medium at the time of said interruption, and to store the write status sent from the detector means in a nonvolatile memory; control means for controlling said read means and said write means, upon restarting writing said program information by said write means and in response to the write status read from the nonvolatile memory, to continue a write operation on said second information storage medium from the program information to be read subsequent to the program information at the time of said interruption or to perform a rewrite operation on said second information storage medium from said program information at the time of said interruption, as recited in claim 1, as amended.

For at least this reason, the Applicants submit that independent claim 1 is patentably distinct over Aoki and in condition for allowance. As claim 1 is allowable, the

Applicants submit that claims 2-6, which depend from allowable claim 1, are likewise allowable.

New Claims 10-18

Each of new, independent claims 10, 16 and 18 recites, in part:

> power supply means for supplying an electric power from a power source or an auxiliary power source to the read device and the write device;
>
> detector means for detecting an interruption of at least any one of a read operation of said read device and a write operation of said write device in the course of writing said program information by said write device, said interruption being caused due to an electric power failure;
>
> determination means which operates when said detector means has detected the interruption, to supply an electric power from the auxiliary power source, to determine a write status of program information on said second information storage medium at the time of said interruption, and to store the write status sent from the detector means in a nonvolatile memory;
>
> control means for controlling said read device and said write device, upon restarting writing said program information by said write device and in response to the write status read from the nonvolatile memory, to continue a write operation on said second information storage medium from the program information to be read subsequent to the program information at the time of said interruption or to perform a rewrite operation on said second information storage medium from said program information at the time of said interruption.

The Applicants submit that none of the cited art of record, nor combination thereof, discloses or suggests at least these features of the claimed invention.

In the claimed invention, the detector means detects an interruption of a read operation by a read device and/or a write operation by a write device in the course of writing program information by the write device. The determination means determines a write status of program information on an information storage medium at the time of the

interruption. The control means controls the read device and the write device upon restarting writing the program information by the write device and in response to the write status determined by the determination means, to continue a write operation on the information storage medium from the program information to be read subsequent to the program information at the time of the interruption, or to perform a rewrite operation on the information storage medium from the program information at the time of the interruption.

By virtue of the present invention having the above-mentioned features, it is possible to provide an improved information read/write apparatus, an improved information read/write method, and an improved program storage medium storing a read and write procedure program which allows a computer to perform the read/write processing that requires only a simple operation to continue high-quality reading and writing of the program information subsequent to the most recently written program information at an interruption caused by a power failure or the like.

Specifically, the present invention makes it possible to continue a read/write operation of the program information subsequent to an interruption without requiring cumbersome manual operations. This in turn serves to improve operability and provide high-quality read and write operations, thereby ensuring continuity between the program information stored prior to the interruption and the program information stored subsequent to the interruption. In the claimed invention, a write status is determined (judged) at the time of a power supply interruption, such that when the power supply interruption is eliminated and recording of program information is to be continued, it is possible to continue the information recording so as to ensure continuity between the program

information stored prior to the interruption and the program information to be stored subsequent to the interruption, without requiring manual operations. In this way, since a write status is determined (judged) at the time of power supply interruption, it is possible to quickly restart recording or reproducing in accordance with the write status at the time of the power supply interruption.

In contrast, Aoki discloses judging whether data has been normally recorded in a specific ECC block after a power supply is turned on subsequent to a power interruption. Thus, in Aoki, since a confirmation for confirming whether data has been normally recorded in an ECC block is performed only after a power supply is turned on, neither recording nor reproducing the program information can be performed until the confirmation is finished. Therefore, it is impossible to quickly continue recording or reproducing the program information even if the power supply interruption has been eliminated. Accordingly, Aoki cannot provide the benefits attainable by the claimed invention.

In addition, Brandon teaches a backup method in which a computer operator is first notified by the presence of a power-down signal that there has been an interruption in the primary power, and then must signify a desire to resume operation of an application before the application is resumed. Therefore, Brandin does not provide the benefits of the claimed invention.

For at least these reasons, the Applicants submit that neither Aoki nor Brandin, alone or combined, discloses or suggests each and every feature of the claimed invention. Specifically, the Applicants submit that neither Aoki nor Brandin, alone or combined, discloses or suggests at least the combination of a detector means for

detecting an interruption of at least any one of a read operation of said read device and a write operation of said write device in the course of writing said program information by said write device, said interruption being caused due to an electric power failure; determination means which operates when said detector means has detected the interruption, to supply an electric power from the auxiliary power source, to determine a write status of program information on said second information storage medium at the time of said interruption, and to store the write status sent from the detector means in a nonvolatile memory; control means for controlling said read device and said write device, upon restarting writing said program information by said write device and in response to the write status read from the nonvolatile memory, to continue a write operation on said second information storage medium from the program information to be read subsequent to the program information at the time of said interruption or to perform a rewrite operation on said second information storage medium from said program information at the time of said interruption, as recited in claims 10, 16 and 18.

For at least these reasons, the Applicants submit that new claims 10, 16 and 18 are in condition for allowance. As claims 10 and 16 are allowable, claims 11-15 and 17, which depend respectively from allowable claims 10 and 16, are likewise allowable.

Conclusion

For all of the above reasons, it is respectfully submitted that the claims currently pending are in condition for allowance and a Notice of Allowability is earnestly solicited.

Should the Examiner determine that any further action is necessary to place this application into better form, the Examiner is invited to contact the undersigned representative at the telephone number listed below.

In the event this paper is not considered to be timely filed, the Applicants hereby petition for an appropriate extension of time. The Commissioner is hereby authorized to charge any fee deficiency or credit any overpayment associated with this communication to Deposit Account No. 01-2300 referencing client matter number 107156-00095.

Respectfully submitted,

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detecting an interruption of at least any one of a read operation of said read device and a write operation of said write device in the course of writing said program information by said write device, said interruption being caused due to an electric power failure; determination means which operates when said detector means has detected the interruption, to supply an electric power from the auxiliary power source, to determine a write status of program information on said second information storage medium at the time of said interruption, and to store the write status sent from the detector means in a nonvolatile memory; control means for controlling said read device and said write device, upon restarting writing said program information by said write device and in response to the write status read from the nonvolatile memory, to continue a write operation on said second information storage medium from the program information to be read subsequent to the program information at the time of said interruption or to perform a rewrite operation on said second information storage medium from said program information at the time of said interruption, as recited in claims 10, 16 and 18.

For at least these reasons, the Applicants submit that new claims 10, 16 and 18 are in condition for allowance. As claims 10 and 16 are allowable, claims 11-15 and 17, which depend respectively from allowable claims 10 and 16, are likewise allowable.

Conclusion

For all of the above reasons, it is respectfully submitted that the claims currently pending are in condition for allowance and a Notice of Allowability is earnestly solicited.

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